RESTORE Lowermost Mississippi River Management Program (LMRMP): Overview and Status

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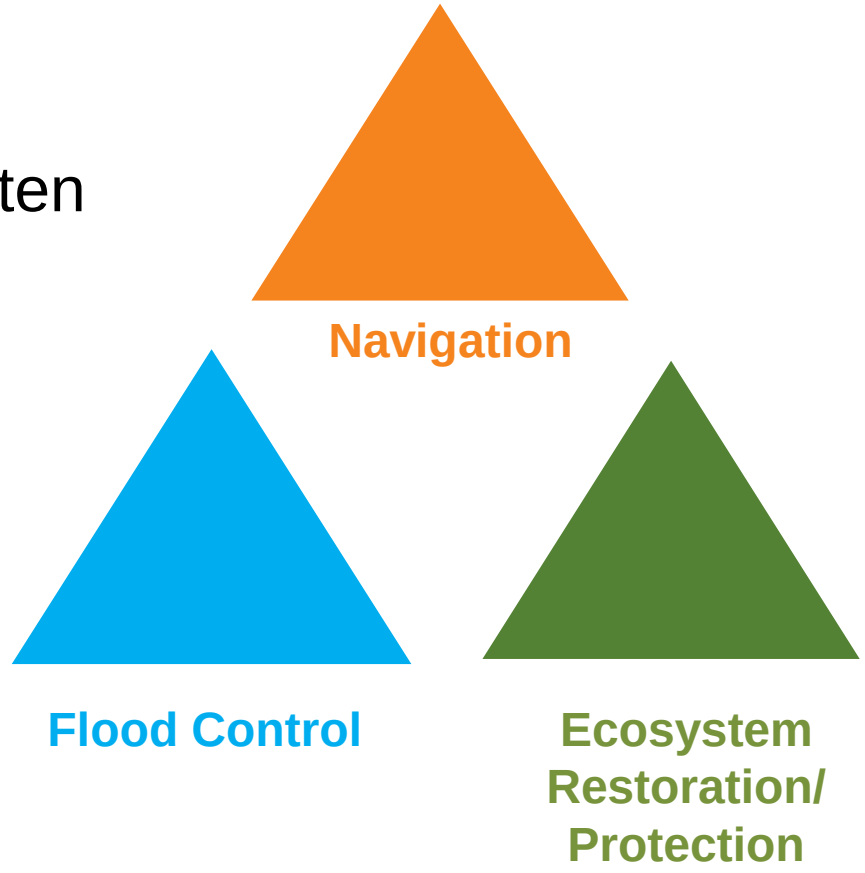
Current River Management
(Lowermost Mississippi River, ie Baton Rouge to the Gulf)

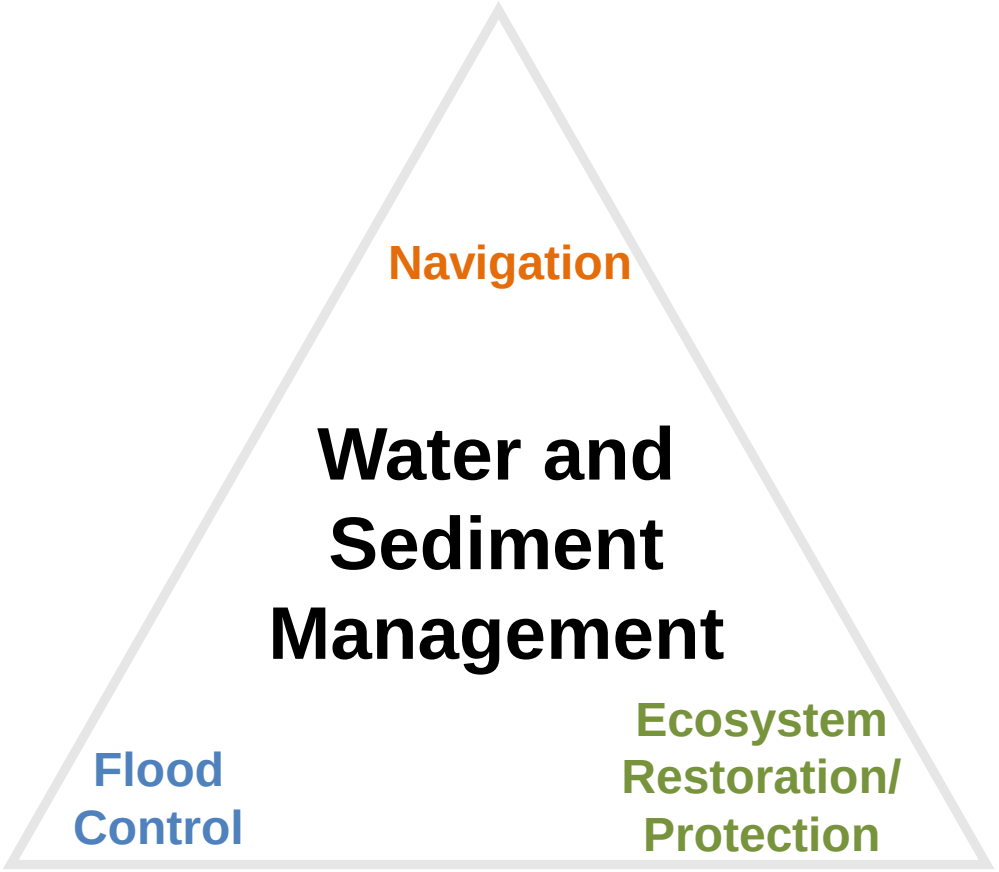
- Flood Control, Navigation, and Ecosystem Restoration and Protection missions are often managed separately.

- They require effective management of two parameters: water and sediment.



LMRMP Objective

LMRMP will provide the technical basis and partnerships to inform a paradigm shift toward holistic water and sediment management of the Lowermost Mississippi River.



Program Background

- 2014: Proposed by State as 50/50 partnership with USACE
- 2015: RESTORE Council approved; placed on Initial Funded Priorities List (Bucket 2)
- 2017: RESTORE Council approved amended proposal
    - USACE not financial partner in grant; still technical partner in program
    - Reduced program scope; removed NEPA component
- 2018: RESTORE Council awarded grant for $9.3 million to Louisiana
- 2021: Grant amendment will request extension through March 2023

Five Technical Elements

- Subsidence
- Geomorphology of the Lowermost River
- Dredge Material Management
- Storm Surge Modeling within the Mississippi River
- Mississippi River Models

Subsidence

Purpose

- Improve understanding of subsidence and land loss
- Improve understanding of subsidence tools and methodology

Task	Status
Subsidence observation network workplan *(CDM Smith, Applied Coastal)*	Complete
Episodic Land Loss Report *(USGS)*	In progress
Neotectonics Expert Panel *(The Water Institute of the Gulf)* (Presentation by Diana Di Leonardo, Session 19, starting today at 2)	Meetings complete, report pending
In-SAR data time-series analysis *(Tulane)* (Presentation by Mead Allison, Session 40, starting Thursday at 2)	In progress (Phase 2)

Geomorphology of Lower River

Purpose

- Inform and calibrate numerical models
- Provide better understanding of sediment and water budget for the system
- Reduce uncertainty about
  - River sand as a renewable resource
  - Future sediment volumes

Task	Status
Seismic survey at Myrtle Grove *(LSU)*	Complete
Data collection at Bonnet Carre Spillway *(CPRA, The Water Institute of the Gulf, Chustz Surveying)*	Complete
Geomorphology workplan *(USACE ERDC, The Water Institute of the Gulf)*	In progress
Birds Foot Delta regional sediment management strategy *(The Water Institute of the Gulf, cooperation with USACE MVN and others)*	In progress

Dredge Material Management

Purpose

- Understand how maintenance dredging can support restoration activities
- Analyze historical and current dredging data and practices
- Economics associated with alternative river management strategies

Task	Status
Synthesis and analysis of deep draft navigation dredging activities *(The Water Institute of the Gulf)* (Presentations by Chris Esposito and John Swartz Session 20, starting today at 2)	Final report pending
Economic analysis of current and alternative dredging strategies *(LSU AgCenter, The Water Institute of the Gulf)*	In progress

Storm Surge Modeling

Purpose

- Investigate potential for storm surge propagation under varying river conditions; need emphasized by Hurricane Barry
- Create state of the art storm surge modeling tool for entire Louisiana coast

Task	Status
Digital elevation model for mesh creation (NGOM2) (*USGS*) (Presentation by Jeff Danielson, Session 20, starting today at 2)	Draft complete, QA/QC in progress
Storm suite, base condition, and statistical analysis *(USACE ERDC)*	Complete
Update model mesh and investigate storm surge propagation in the Mississippi River *(USACE ERDC, LSU)* (Presentation by Chris Massey, Session 20, starting today at 2)	Pending

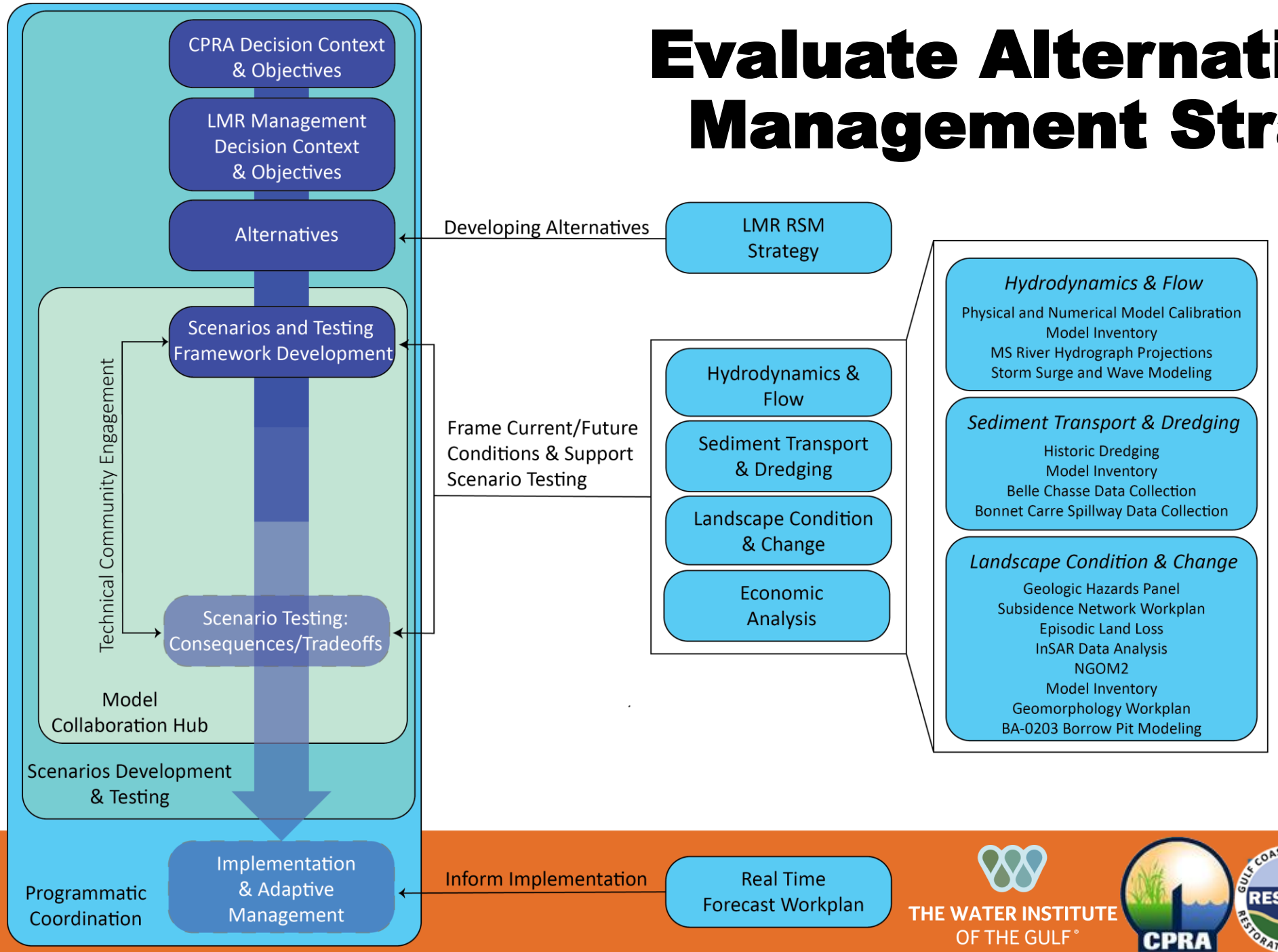
Mississippi River Models

Purpose

- Improve/create models to enhance understanding of River dynamics
- Identify/evaluate alternative River management strategies
- Inform decision making

Task	Status
Optimization of navigation dredging operations *(*BA-203 Borrow Pit Modeling*, USACE ERDC)*	Complete
Mississippi River hydrograph projections *(USACE ERDC)*	In progress
Cross calibration (numerical models and Small Scale Physical Model) *(CPRA, The Water Institute of the Gulf)* (Presentations by Kazi Sadid and Brendan Yuill, Session 20, starting today at 2)	In progress
Modeling Collaboration Hub *(The Water Institute of the Gulf)*	In progress
Real time forecasting workplan *(USACE ERDC, WI)* (Presentation by Travis Dahl, Session 20, starting today at 2)	In progress
Data collection at Belle Chasse River gage *(USGS)*	In progress
Numerical model inventory *(The Water Institute of the Gulf)*	In progress
Modeling workplan (alternative and scenario identification) *(CPRA, The Water Institute of the Gulf, Royal Engineers, USACE ERDC)*	In progress

Evaluate Alternative River Management Strategies



Multiple tasks work together to support identifying alternative river management strategies and developing a modeling framework to evaluate them

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